

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

JAN 20 1998

Mr. Robert T. Rasor, Plant Manager  
Mr. Randy Stebbins, Laboratory Manager  
S. D. Myers  
180 South Avenue  
Tallmadge, OH 44278

Dear Messrs. Rasor and Stebbins:

This responds to your letter of December 8, 1997 regarding your PCB alternative disposal approval issued under 40 CFR 761.60(e) and fluorescent light ballasts disposal. In your letter you indicated metals cleaned using your PCB alternative disposal technology for PCB containing fluorescent light ballasts did not always meet the 100 ug/100 cm<sup>2</sup> standard as outlined in your PCB alternative disposal approval. Based on this information you requested that additional steps such as solvent washing be included in all PCB alternative disposal approvals involving disposal of the PCBs from fluorescent light ballasts.

We have reviewed this issue with the affected Regions and have found no reason to require that all PCB alternative disposal approvals for PCB fluorescent light ballasts be amended to include additional steps such as solvent washing of the separated metal components. The facilities identified in your letter have been inspected by Regions II and IX to collect samples and/or review batch sampling records to determine if they are complying with their approval conditions. Specific information relating to compliance monitoring and enforcement activities regarding these facilities and their ability to meet their PCB alternative disposal technology approval conditions can be obtained from the appropriate Regional Office. For the facilities in Region II, the contact is David Greenlaw at 372-906-6817 and for facilities in Region IX, the contact is Yosh Tokiwa at 415-744-1118.

The PCB alternative disposal approvals issued by both Region II and Region IX require that separated metal components of PCB fluorescent light ballasts be classified based on the amount of PCBs remaining on the surfaces of the metal. Separated metal components of PCB fluorescent light ballasts found to be contaminated with PCBs at 100 ug/100 cm<sup>2</sup> or less may be disposed by recycling or as municipal solid waste. However, based on conversations with Region II personnel for the facility in their Region, if the 100 ug/100 cm<sup>2</sup> is not achieved, the separated metal components are then washed using water and a detergent until the 100 ug/100 cm<sup>2</sup> is achieved. Both Regions require maintenance of records for sample analysis related to each batch of separated metal components. These approvals also require that the sample analysis be done in laboratories that are certified to do PCB analyses by the state in which they are located. Since Region II and IX have indicated that these facilities currently meet the requirements of their PCB alternative disposal approvals, there is no reason to compel these facilities to undertake additional disposal processes such as washing the separated metal components.

DHannemann:dh/OPPT-NPCD-FOB/13Jan. 1998/7404/260-3961/ET835J.C:\Letter\Myers-bas.lst  
File: NPCD/FOB;CHRON-READING;AUTHOR:Lit. Messrs. Robert Rasor & Randy Stebbins  
SD Myers RE: PCB Fluorescent Light Ballasts, 761.60(e) approvals, Solvent washing, Recycled metals

CONCURRENCES

|         |             |  |  |  |  |  |  |
|---------|-------------|--|--|--|--|--|--|
| SYMBOL  | 7404        |  |  |  |  |  |  |
| SURNAME | Hannemann   |  |  |  |  |  |  |
| DATE    | 13 Jan 1998 |  |  |  |  |  |  |

Your letter also alluded to information you have regarding facilities that were involved in improper disposal of PCBs from fluorescent light ballasts. Any information relating to specific knowledge of violations of the Toxic Substances Control Act should be provided to the Office of Enforcement and Compliance Assurance. I have forwarded your letter and this response to Jesse Baskerville, Director of the Toxics and Pesticides Enforcement Division (2245A), Office of Enforcement and Compliance Assurance, 401 M Street SW, Washington, DC 20460 (202-564-2325).

If you have any questions regarding this response, please contact David Hannemann of my staff at 202-260-3961.

Sincerely,

John W. Melone, Director  
National Program Chemicals Division

cc. Jesse Baskerville, OECA  
David Greenlaw, Region II  
Priscilla Fonseca, Region V  
Yosh Tokiwa, Region IX

December 8, 1997

Mr. John Melone  
FEDERAL UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Director of National Program, Chemicals Division  
Mail Code 7404  
401 M. Street SW  
Washington D.C. 20460

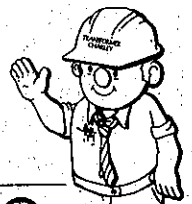
Dear Mr. Melone,

This past week, Mr. Dodi Dodohara of your staff was here at S.D. Myers Inc. to witness a demonstration of our PCBgone PCB oil dechlorination process. Mr. Dodohara, myself, and Mr. Randy Stebbins, our Laboratory Manager, took a tour of our entire facility, including Resource Recovery, Material Recovery (<500 ppm disposal), Lead Cable, Capacitors, and also our Lighting Ballast process. In our discussions following the tour, we covered some concerns we have with lighting ballasts, and your name was mentioned as a key person.

In past years, and in our opinion it will be the same for the next 5-10 years, the quantity of non-leaking PCB ballasts being disposed of annually in the U.S. is between 20 to 30 million pounds. Of this 100 million or more pounds, 60-70% of this weight will be recycled and/or perhaps worse in terms of this argument, some will be exported. We at S.D. Myers Inc., since the very inception of our ballast processing, have included solvent rinsing in our processing of these ballasts due to the high PCB levels in the potting compounds. Even when we tried to figure out a less involved process to clean the metals, we could not ... as the mechanical removal of PCBs is not in our opinion a valid method. This 60 to 70 million pounds of material is a huge potential for concern. Annually it breaks down to 15-18 million lbs of material that we believe is entering commerce with levels of PCBs that often do not meet the 100ug/100cm<sup>2</sup> wipe sampling or 50 ppm for irregular surfaces criteria for disposal via smelting. This is nearly as much weight as we estimate that is recycled (with the strictest of guidelines) in the over 500 ppm transformer arena.

The following is a brief summary of the conditions we see present. Details are found in the appendices.

1. We tested over 1,000 random non-leaking PCB lighting ballasts in 1993. See the charts and test results in attachment B. Of the 1,050 tested, the average tar (potting compound) concentration was 1,200 ppm. 38% of the ballasts had tar over 500 ppm.





December 8, 1997

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2. The ballasts, once separated, have 5 major components....
  - TAR ..... Potting compound (requires TSCA disposal)
  - PCB capacitor... Requires TSCA incineration
  - Case ..... Usually steel, occasionally aluminum (see No. 3 below)
  - Core ..... Laminated silicone steel (see No. 3 below)
  - Coils..... Aluminum or copper wound varnished wire and paper  
(see No. 4 below)
  
3. The steel and laminations have visible tar on much of it. Pieces were wipe sampled and found to have over 300 ugs average. As summarized in Attachment C, we used mechanical methods such as employed by SalesCo (FulCircle does nothing at all to our knowledge) and could not even with concentrated effort, get the metal to below 100ugs/100cm<sup>2</sup>. The tar would be visibly removed, but wipe samples still showed PCBs at an average of 176 ug for the cases, and 115 ug for the laminations. We did note, however, that you could find pieces that would pass if you picked ones free of tar and even then, you had to often retest or pick different pieces to find low contamination.
  
4. The copper, aluminum, and paper wound coils showed high PCB concentrations in the paper (24% over 500 ppm, and 70% over 50 ppm). However, if you test only fragments of the varnished wire itself, and no paper, we found only a small percentage over 50 ppm, and none over 500 ppm (see Attachment D). The problem is, that these coils (paper included, as it is integrally wound in the coil) are sent by SalesCo and Fulcircle to copper recyclers. None of the copper recyclers we know of can accept materials over 50 ppm.

We also had knowledge from an exporter, that millions of pounds of these cores and coils were being exported overseas. We know, because we were asked if we would send them some too.

SDMI requested from Region V EPA on September 4, 1994 (see attachment E), the permission to burn coils from the ballasts in our Copper Reclamation furnace equipped with a (2200 deg, 2 sec. retention time) afterburner and approved to burn transformer windings up to 500 ppm. The request was denied because the paper on the coils was over 500 ppm. How then can FulCircle and SalesCo send their coils to copper recyclers that cannot even take 50-500 ppm material?

Based on the above facts and happenings, we had asked EPA to officially make a ruling on the disposal practices for PCB lighting ballasts. In a formal letter and report, October 1996, we summarized the above in detail (see Attachment F). It was sent to Jesse Baskerville, Dave Hannemann, Priscilla Fonseca, and Andy Belina (US EPA Region II). From our conversations with Priscilla Fonseca of Region V, we sensed that she was convinced a problem existed, yet to date we have not achieved an inter-regional consensus to enforce consistency.

**SDMYERS**

December 8, 1997

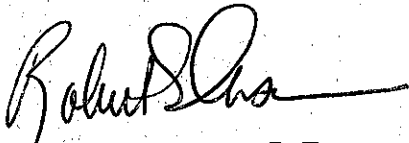
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Since then....in fact, up until just this week, we got very little action. The action now proposed in our new Resource Recovery Permit, much to our surprise, is to REQUIRE that SDMI solvent rinse metals from non-leaking ballasts. Originally our permit had only addressed leaking light ballasts.

Based on this proposed direction by EPA Region V, we are asking that the other PCB ballast disposal facilities be required to solvent rinse as well, or prove that their processes indeed produce consistent clean metals that meet the 100ug/100cm<sup>2</sup> requirement for smelting, and the 50 ppm level of contamination for copper reclamation facilities. It is also important that the coil recycling issues be addressed, in the same manner as for SDMI ... in that even though the overall ppm of the coil is often under 50 ppm, the paper in the coils being over 50 and often over 500 ppm will dictate the disposal, and thereby not allow these materials to go to smelters.

For further discussions of this, please feel free to contact us.

Sincerely,



Robert T. Rasor P.E.  
Plant Manager, SDMI, Tallmadge, Ohio



Randy D. Stebbins  
Laboratory Manager

cc. Dana S. Myers, President  
Priscilla Fonseca, U.S. EPA Region V  
John Sans PhD, SDMI Laboratory Scientist  
Joseph J. Kelly, Manager, Environmental Affairs  
Mr. Winston Lue, U.S. EPA  
Mr. Hiroshi Dodohara

RR/tll

- a. **Lighting Ballasts:** Non-Leaking lighting ballasts will be dismantled to segregate the reclaimable metal components from the potting materials, small capacitor and other non-reclaimable components of the ballasts. The reclaimable metal components will be solvent washed and sampled for PCBs to determine cleanliness.

**Non-reclaimable materials from non-leaking ballasts (e.g., potting material, paper, wire and non-leaking small capacitor) shall be stored for subsequent disposal in a TSCA approved landfill or incinerator.**

## COMPARISON - COMPOUND RESULTS FOR FIRST AND SECOND BALLAST EXPERIMENTS

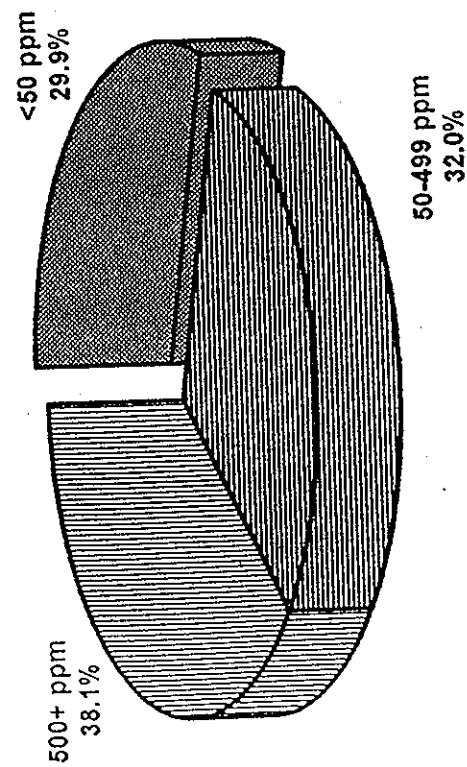
## RESULTS: FIRST BALLAST EXPERIMENT

|                |             |                |
|----------------|-------------|----------------|
| Average        | 1227.252    |                |
| Std. Deviation | 2923.251215 |                |
| ucl =          | 9997.005644 | <50 ppm 299    |
| lcl =          | 0           | 50-499 ppm 320 |
| median =       | 273.5       | 500+ ppm 381   |
| MIN =          | 1           |                |
| MAX =          | 57948       |                |

## DISTRIBUTION:

50+ ppm: 70.1%  
2000+ ppm: 16.5%

## Results Summary



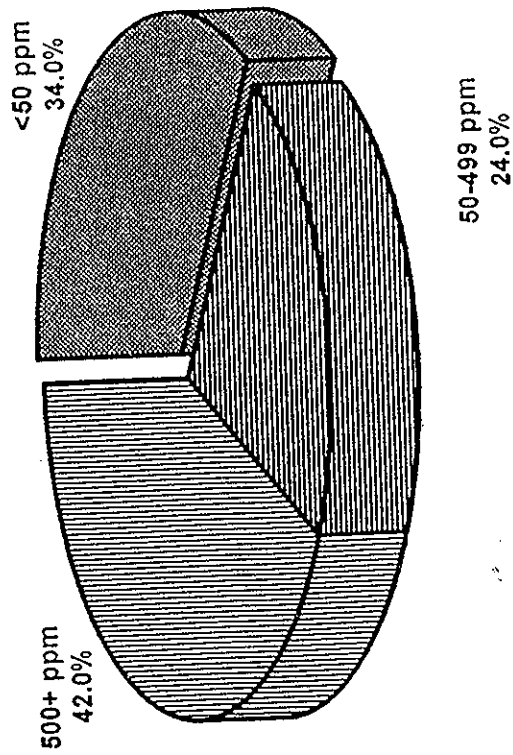
## RESULTS: SECOND BALLAST EXPERIMENT

|                |               |               |
|----------------|---------------|---------------|
| Average        | 2307.500002   |               |
| Std. Deviation | 6003.51444    |               |
| ucl =          | 20318.04332   | <50 ppm 17    |
| lcl =          | 0             | 50-499 ppm 12 |
| median =       | 249.5         | 500+ ppm 21   |
| MIN =          | none detected |               |
| MAX =          | 37582         |               |

## DISTRIBUTION:

50+ ppm: 66.0%  
2000+ ppm: 24.0%

## Results Summary



FROM: RASOR ROBERT Rasor, Robert

DATE: August 28, 1995

SUBJECT: LIGHT BALLAST EXPERIMENT RESULTS

Below are the results from testing 13 ballasts and the ability to clean the PCBs off of the metals by using mechanical methods only....a needle mill. For both the laminations and the cases, we sampled 13 ballasts that as close as possible matched the PCB profile when we tested the 1000 tar samples.

| Sample Number | Tar PPM | Paper PPM | Wire PPM | Unprocessed Cases | Processed Cases | Unprocessed Lamos | Processed Lamos |
|---------------|---------|-----------|----------|-------------------|-----------------|-------------------|-----------------|
| 26            | 276     | 132       | 36       | 66                | 132             | 153               | 44              |
| 27            | ND      | 3         | 1        | 10                | 52              | 183               | 13              |
| 28            | 209     | 481       | 15       | 105               | 127             | 336               | 47              |
| 29            | 3,615   | 7,805     | 59       | 1,669             | 260             | 5,334             | 1,655           |
| 31            | 29      | 98        | 7        | 16                | 102             | 25                | 24              |
| 32            | 1,633   | 204       | 2        | 101               | 71              | 85                | 48              |
| 33            | 1,055   | 11,559    | 819      | 510               | 183             | 255               | 179             |
| 38            | 1       | 7         | 82       | 25                | 85              | 230               | 12              |
| 39            | 96      | 151       | 11       | 67                | 32              | 24                | 23              |
| 40            | 77      | 69        | 9        | 44                | 97              | 16                | 30              |
| 44            | 7,536   | 3,860     | 147      | 604               | 196             | 285               | 172             |
| 45            | 789     | 267       | 22       | 78                | 63              | 29                | 31              |
| 47            | 17      | 350       | 57       | 44                | 91              | 36                | 18              |
| Ave           | 1,165   |           |          | 537               | 176             | 257               | 115             |

Previous Study involving 50 ballasts.

1,325

315

461

This clearly shows that the mechanical methods for tar removal do not take the PCBs off of the metal surfaces consistently under 100 ug/100cm2.

TO: HEATON AKRON Heaton,  
David



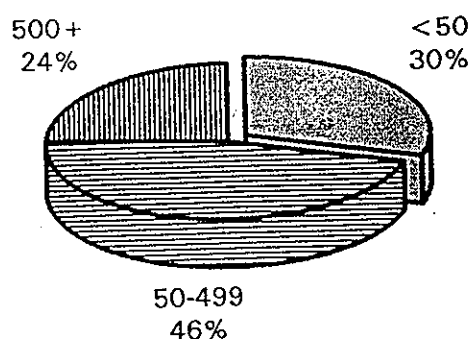
## SUMMARY OF SECOND BALLAST EXPERIMENT

all samples

**PAPER SAMPLE RESULTS**

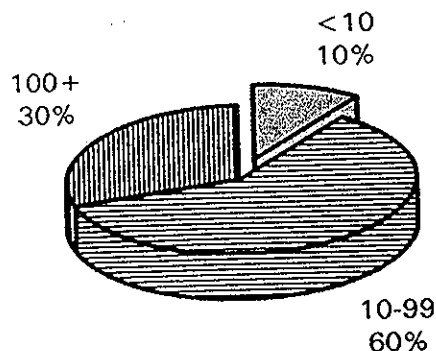
(results in ppm)

|                |             |                     |    |
|----------------|-------------|---------------------|----|
| Average        | 1325.12     |                     |    |
| Std. Deviation | 3677.143338 | <u>DISTRIBUTION</u> |    |
| ucl=           | 12356.55001 | <50                 | 15 |
| lcl=           | 0           | 50-499              | 23 |
| median=        | 128.5       | 500+                | 12 |
| min=           | 2           |                     |    |
| max=           | 18484       |                     |    |

**Results Summary****LAMO SAMPLE RESULTS**

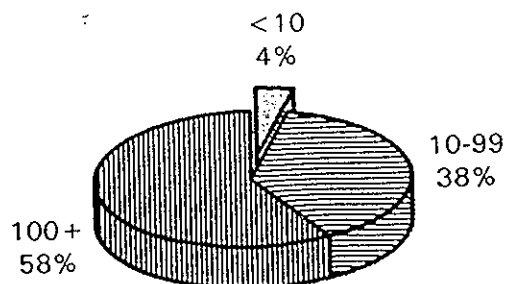
(results in ug/100cm2)

|                |               |                     |    |
|----------------|---------------|---------------------|----|
| Average        | 315.420002    |                     |    |
| Std. Deviation | 988.8979448   |                     |    |
| ucl=           | 3282.113836   | <10                 | 5  |
| lcl=           | 0             | 10-99               | 30 |
| median=        | 43            | 100+                | 15 |
| min=           | none detected |                     |    |
| max=           | 4932          |                     |    |
|                |               | <u>DISTRIBUTION</u> |    |

**Results Summary****CASE SAMPLE RESULTS**

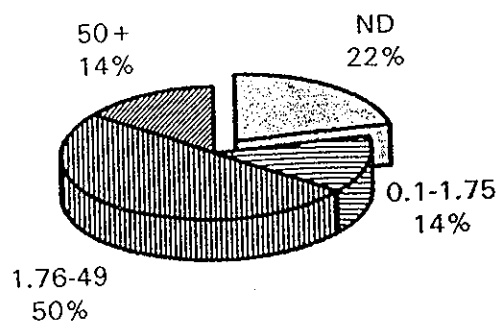
(results in ug/100cm2)

|                |               |                     |    |
|----------------|---------------|---------------------|----|
| Average        | 461.580002    |                     |    |
| Std. Deviation | 1233.529167   | <u>DISTRIBUTION</u> |    |
| ucl=           | 4162.167503   | <10                 | 2  |
| lcl=           | 0             | 10-99               | 19 |
| median=        | 108           | 100+                | 29 |
| min=           | none detected |                     |    |
| max=           | 6159          |                     |    |

**Results Summary****WIRE SAMPLE RESULTS**

(results in ppm)

|                |               |                     |    |
|----------------|---------------|---------------------|----|
| Average        | 22.464022     |                     |    |
| Std. Deviation | 39.51989573   | <u>DISTRIBUTION</u> |    |
| ucl=           | 141.0237092   | ND                  | 11 |
| lcl=           | 0             | 0.1-1.75            | 7  |
| median=        | 4.5           | 1.76-49             | 25 |
| min=           | none detected | 50+                 | 7  |
| max=           | 194           |                     |    |

**Results Summary**

Tuesday, September 6, 1994

Ms. Priscilla Fonseca,  
United States Environmental Protection Agency  
Region V  
SP-14J  
77 West Jackson Blvd.  
Chicago, Illinois, 60404-3590

Dear Ms. Fonseca,

In response to your requests concerning our ability to burn the unregulated, non-leaking light ballast copper/aluminum windings in our reclamation furnace, we offer the following information;

1. Using ballasts from our process area, we believe the data indicates that the **overall PPM** of the ballast coils will not exceed the 500 ppm permit level of our furnace, even though data shows that individual tar samples are indeed over 500 ppm. These coils are made of 80% copper and 20% paper (that has some tar impregnation). Most of the tar is removed in the shredding, and only the outer wraps of the coils significantly soak up the tar, leaving the overall ppm of the coil below 500 ppm.

In order to show conservatively that our approach does not create a risk to humans or the environment, we took 5 coils that had surface tar/paper contamination averaging 2600 ppm. This is extremely high, and from our data base, a much higher level of contamination than what exists. We took these 5 coils and ground them into very small pieces (as close to dust as possible) and the sample from the composite of all 5 samples was 334 ppm.

With this information we believe that the use of our copper reclamation furnace for < 500 ppm transformers is viable. With our data base showing that only 24% of all ballasts are over 500 ppm, our 5 sample coil experiment of 2600 ppm yielding only 334 ppm is good conservative support for using the furnace to process this material.

2. The ash from our copper and aluminum reclamation furnaces was sampled from 10 different runs and averaged 0.4 ppm.
3. Attached you will find our Ohio EPA permits for the operation of our copper and aluminum reclamation furnaces. These permits are controlled by the Summit County Air Pollution office in Akron, Ohio, under the direction of Mr. Lynn Malcome and Mr. Frank Markulis. Telephone No. 216-375-2480. Our furnace is also equipped with an emergency generator, compressed air source, and is able to be restarted within 1 minute of a power failure.....far less time than what could allow the afterburner to cool to temperatures less than 2200 degF in a power failure.

4. The burned copper and aluminum coils from under 500 ppm coils were tested (we burned about 20 of them in a container during another run of regular transformer windings) to an average of 0.05 ppm PCB.

We trust this information will be helpful in supporting our request to burn the coils in our furnace after removing the laminated steel, cases, small PCB capacitor, and tar from the ballast. We believe that by burning these unregulated, under 500 ppm materials in our furnace with an EPA approved 2200 degF, 2 second retention time, high temperature after-burner, there will be no risk to humans or the environment.

We look forward to your response,

Very Truly Yours,

Robert T. Rasor P.E.  
Plant Manager, SDMI

John R. Sans PhD  
Laboratory Scientist

Attachments..... Laboratory data from furnace ash  
Ohio EPA furnace permits

cc. DS Myers President  
JJ Kelly Manager of Environmental Affairs, SDMI

Compound Filled PCB Lighting Ballasts  
A Report Concerning Disposal Methodology

Presented to;

The United States Environmental Protection Agency  
Region V, Chicago, Illinois  
Federal Level, Washington D.C.

Prepared by ..... S.D. Myers Incorporated  
October 1996

Robert T. Rasor P.E.  
Plant Manager

Randy Stebbins  
Laboratory Manager

John Sans PhD  
Laboratory Scientist

S.D. Myers Inc.  
180 South Avenue  
Tallmadge, Ohio 44262  
216-630-700

PCB Compound Filled Lighting Ballast Disposal

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## I. Scope

In 1989, S.D. Myers Inc. received a permit from the United States Environmental Agency to operate the process named Resource Recovery. It utilizes specialized solvent processing equipment to remove PCBs from the wetted components of transformers and other electrical and hydraulic equipment to a level where the metals can then either be safely reused, or sent for destruction via smelting. Since then, we have had several other demonstrations to clean other materials, including gas meters, pumps, and hydraulic machinery. In 1992, we began investigating the application of our Resource Recovery process to PCB lighting ballasts.

From some initial investigations, we learned that there were a few companies already treating ballasts. The knowledge soon began pointing toward some confusing data and processing requirements in the permits from the other facilities. We could not fully understand the situation until we first fully understood lighting ballasts, so we took the initiative to test 1,000 random PCB, non-leaking ballasts to see just how contaminated ballasts were to begin with, and then 50 other ballasts we tested to see which components had the PCBs in what levels, so that the proper treatment could be designed.

It was with this first investigation that we brought up several inconsistencies in the permitting process, and began our still ongoing determination to get consistent and environmentally adequate rules for this industry. Letters of our findings were sent to.....

U.S. EPA Region V, Priscilla Fonseca  
U.S. EPA Washington D.C., Jesse Baskerville  
U.S. EPA Washington D.C., John W. Malone  
U.S. EPA Region II, Andy Bellina

## II. Summary of Concerns

### A. The Permitting Process...a Summary

The regulations call for the internals of opened PCB ballasts in the quantities handled by companies for disposal to be a regulated process. Some companies have permits and some don't.

The 1,000 non-"non-PCB" ballasts we tested showed potting compounds as follows (see the charts in Appendix A)...

|                              |       |           |
|------------------------------|-------|-----------|
| Average contamination .....  | 1,227 | ppm       |
| Median contamination .....   | 273   | ppm       |
| Potting compound <50 ppm ... | 299   | or 29.9 % |
| Potting compound 50-500 .... | 320   | or 32.0 % |
| Potting compound >500 ppm... | 381   | or 38.1 % |

These levels of PCBs indicate the need for any facility handling this material to be a permitted PCB storage facility.

C. Sources for Smelting of Metals in Summary

Per the CRF, all domestic sources for smelting are limited to 50 ppm unless the 2200 degF, 2 second retention time afterburner is used. With this afterburner, up to 500 ppm material is permitted.

It is common knowledge that the materials leaving the other processing facilities in this country are going to unregulated copper reclaimers that would not have the afterburner that we here at SDMI have. This in itself causes us to process at a cost disadvantage, for following the law, we were specifically told we could not burn the coils in our furnace even with the PCB rated afterburner.

Another cause for concern came when we sought sources to buy our scrap on the foreign metal market. A large exporter of metals said he receives and exports over 4Million pounds of core assemblies from PCB ballasts per year. The export laws are clearly set at 50 ppm. These are the same cores that we cannot put into our 500 ppm furnace.

III. Conclusions and Recommendations

1. We believe that for the recycling and disposal of PCB lighting ballasts, a company must have a permit.
2. In order to obtain a permit, a demonstration is necessary. The demonstration must show consistent compliance to the cleanliness levels, and not random grab samples showing a good result when in the same lot, some samples do not comply.
3. The levels of cleanliness are to be demonstrated to clean metals to a level of 100 ug/100cm<sup>2</sup>, and an irregular surface or porous material must be at a smelting level of 50 ppm.
4. SDMI concurs with EPA, that because of the data showing paper on the ballast wire coils over 500 ppm, that our coils (or the coils from any process) cannot go to our furnace, nor any other furnace or smelter in the United States, unless sampled with consistency to under 50 ppm.
5. Due to the high level of PCBs on unsolvent rinsed surfaces, the exporting of cores (coil and lamination assemblies) is strictly prohibited.

#### IV. Detailed Description of the Concerns

##### A. The Permitting Process

The regulations call for the internals of opened PCB ballasts, especially in the in the quantities handled by companies for disposal to be a regulated process. Some companies have permits and some don't. If the company has a PCB storage facility application either approved or accepted as "in process", it seemingly qualifies them to handle the ballasts.

It is clear from the regulations, that companies involved in the disposal activities of PCB items are required to have a permit for the operation of the facility. It is clear from the permits and permit applications, that there were no demonstrations performed by these companies to show that the metals leaving for smelting were shown to be below the acceptable levels of 10ug/100cm<sup>2</sup> or 2 ppm, the then existing levels of cleanliness required for the other PCB recycling operations like Resource Recovery.

SDMI petitioned the EPA by several letters in 1995, and a meeting with SDMI's Dana Myers and Joe Kelly in Chicago, asking them to consider making the permits consistent. In May of 1996 the Resource Recovery permits were changed to 100ug/100cm<sup>2</sup> for all metals going for destruction via smelting. The question still remains as to the requirement for the permitting of all ballast facilities, and should the permit require a demonstration.

It is the belief of SDMI, as following the CFR as our guide, that facilities involved in the disposal of PCB materials (as opened PCB light ballasts clearly are) should be required to have a permit for the treatment of both leaking and non-leaking ballasts, and that the permit requires a demonstration to prove that the process indeed meets the 100ug/100cm<sup>2</sup> level of cleanliness, or the 50 ppm level of solids where the PCB are unregulated.

##### B. Levels of Cleanliness and Processing Procedures

One of the things a demonstration will accomplish is the verification that the processing as described in the permit is indeed capable of meeting the requirements of the permit. The levels of cleanliness currently in place are 100 ug/100cm<sup>2</sup> for flat, non-porous, surfaces, and 50 ppm for the other materials. After our initial potting compound survey, we next took 50 non-leaking PCB ballasts to look at the component contamination levels. We selected the ballasts by PPM of the potting compound to match the same distribution of PCBs as the 1,000 ballast sample.



2. The wipe samples for the laminations showed that unprocessed laminations are over 100 ug/100cm<sup>2</sup> 30% of the time. With this in mind, we believe that solvent rinsing is necessary to assure that the laminations meet the 100 ug/100cm<sup>2</sup> level required to send out for smelting. From the applications and permits of the other ballast companies, it was noted that drums of the laminations were sampled for the 50 ppm level.

With 30% of the laminations over 100ug, and the rather difficult methods employed to get 100 ug from a lamination that is only perhaps 30 cm<sup>2</sup> per side in area, we believe the sampling procedures would have to be designed and demonstrated to show that in all cases, the laminations over 100 ug/100cm<sup>2</sup> of PCB were sorted out of the metals going for smelting.

It was also noted that one of the processes mentioned removing the residual tar with the use of a needle mill. SDMI secured a needle mill, and again, selected a profile of tars to match the 1,000 we first sampled. We sampled the laminations before and after the needle mill removed all visible traces of tar. As shown in Appendix C, the average PCB wipe concentration after the needle mill treatment still averaged over 100 ug/100cm<sup>2</sup>.

3. The last important information gathered from the component PCB sampling is the level of PCBs found on the cases. Here over 58% of the cases showed 100 ug/100cm<sup>2</sup> or more. Again, any sampling protocol showing a consistent <100 ug/100cm<sup>2</sup> level to allow smelting would have to be inaccurate.

The needle mill was also used on these pieces, and again, the same over 100 ug/100cm<sup>2</sup> result. With the cases especially, we cannot see how a needle mill, or any other mechanical means of removing the PCB can be effective. Only solvent rinsing or burning can remove the PCBs off these non-regular surfaces.

#### C. Sources for Smelting of Metals

Per the CRF, all domestic sources for smelting are limited to 50 ppm unless the 2200 degF, 2 second retention time afterburner is used. With this afterburner, up to 500 ppm material is permitted.

It is common knowledge that the materials leaving the other processing facilities in this company are going to unregulated copper reclaimers that would not have the afterburner that we here at SDMI have. This in itself causes us to process at an unfair cost. In order for SDMI to treat the coils, we first must employ solvent rinsing. Next we had a significant amount of time learning how to rid the coils of the solvent smell to below OSHA 50 ppm PELs.

Another cause for concern came when we sought sources to buy our scrap on the foreign metal market. A large exporter of metals, Tung Tai Corporation (exports to China) was interested in buying our non-PCB ballasts whole. During this conversation, he mentioned that he would also be interested in the core/coil assemblies from the regular PCB ballasts. He said he receives and exports over 4 Million pounds of this material a year. The export laws are clearly set at 50 ppm, so how could the same coils that we cannot put into our 500 ppm EPA approved afterburner be going to an exporter!?

#### V. Chronological Listing of Events

|                |  |
|----------------|--|
| May 1989       | SDMI Receives a permit for Resource Recovery.  |
| March 1993     | SDMI begins seriously looking at ballast treatment.  |
| June 1993      | 1,000 random PCB ballasts potting compound are sampled.  |
| August 1993    | SDMI submits information in letters to the following people on the high levels of PCBs in the potting compound....                       |
|                | Jesse Baskerville U.S. EPA Washington  |
|                | Dave Hannemann U.S. EPA Washington   |
|                | Priscilla Fonseca U.S. EPA Region V  |
|                | Andy Bellina U.S. EPA Region II  |
| August 1993    | SDMI does component testing on 50 light ballasts   |
| November 1993  | SDMI submits information in letters to the following on the results of our second study showing how high in PCBs the components are..... |
|                | Jesse Baskerville U.S. EPA Washington  |
|                | Dave Hannemann U.S. EPA Washington   |
|                | Priscilla Fonseca U.S. EPA Region V  |
| August 4, 1994 | Letter to EPAs Priscilla Fonseca further elaborating on the copper coils and their treatment.  |
| Sept. 6, 1994  | Letter to EPAs Priscilla Fonseca asking permission to burn copper coils in our EPA 500 ppm furnace.                                      |
| Nov. 7, 1994   | Letter to Jesse Baskerville bringing our petitions on lighting ballasts to him again.  |
| Dec. 13, 1995  | Letter to EPAs Priscilla Fonseca again asking for ballast clarification with regard to our permit.                                       |

#### Recent correspondence

The Resource Recovery Permit has been in an edit mode by the EPA since early this year. Many very practical changes are being incorporated into the permit to improve the consistency in the regulations for such activities. Part of the permit review process are the changes to the ballast processes. Priscilla Fonseca and Region V have been looking at the ballast regulations for 3 years and at last report, a committee is looking at trying to get the 3 or 4 (actually all 10) regions to have a consistent policy.

At this point in time, we do not know what direction this committee is heading. We do know that there is concern.